



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY TEMPE

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MECHANICAL

Valid To: March 31, 2026

Certificate Number: 214.10

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following automotive, and aerospace testing:

Tests:

Test Specifications/Methods:

Vibration (Sine, Random and Combined) ¹
(5 to 3000) Hz
1" stroke
24,000 lbs. Force to 100 g's

MIL-STD-750 C, D, E, F (Methods 2046, 2056, 2057);
MIL-STD-167A (Method I);
MIL-STD-810 Base, A, B, C, D, E, F, G, H
(Methods 514, 519, 526);
MIL-STD-202 E, F, G (Methods 201, 203, 204, 214);
MIL-STD-1344A (through Notice 6), (Method 2005);
MIL-STD-1576 Base (Method 3113);
MIL-STD-1540 B, C, D;
RTCA/DO-160 B, C, D, E, F, G (Section 8);
SAE/USCAR 24 (Inflator Requirements), June 2004;
SAE/USCAR 28 (Initiator Requirements), June 2005

Vibration Shock ¹
(5 to 3000) Hz
1" stroke
24,000 lbs. Force to 100 g's

MIL-STD-202 E, F, G (Method 213);
MIL-STD-810 Base, A, B, C, D, E, F, G, H,
(Method 516);
MIL-STD-1344A (through Notice 6), (Method 2004);
RTCA/DO-160 B, C, D, E, F, G (Section 7);
SAE/USCAR 24 (Inflator Requirements), June 2004;
SAE/USCAR 28 (Initiator Requirements), June 2005

Mechanical (Drop) Shock ¹
(12, 20 & 40) ft. drop towers

MIL-STD-810 Base, A, B, C, D, E, F, G, H,
(Method 516);
MIL-STD-202 E, F, G (Method 213);
MIL-STD-1344A (through Notice 6) (Method 2004);
MIL-STD-1576 Base (Method 3114);
SAE/USCAR 24 (Inflator Requirements), June 2004

(Beam) Shock ¹
Air Cannon, Beam

MIL-STD-1576 Base (Method 3114)

Tests:

Acceleration ¹
r = 12"; RPM=2000
r = 34"; RPM=400
r = 56"; RPM=150

Environmental

Temperature Altitude ¹
(0 to 100,000) Feet
(-72 to 150) °C

High Temperature ¹
200 °C chamber

Low Temperature ¹
(To -176 °C)

Temperature Shock ¹
(-176 to 200) °C

Thermal Vacuum ¹
1x 10⁻⁵ torr (or better)
(-150 to 175) °C

Temperature/Humidity ¹
(10 to 95) %RH

Temperature Cycling ¹
(-176 to 200) °C

Explosive Atmosphere

Test Specifications/Methods:

MIL-STD-810 Base, A, B, C, D, E, F, G, H,
(Method 513);
MIL-STD-202 E, F, G (Method 212);
MIL-STD-1344A (through Notice 6), (Method 2011);
RTCA/DO-160 B, C, D, E, F, G (Section 7);
SAE/USCAR 28 (Initiator Requirements), June 2005

MIL-STD-810 Base, A, B, C, D, E, F, G, H
(Method 500);
MIL-STD-202 E, F, G (Method 105);
RTCA/DO-160 B, C, D, E, F, G (Section 4);
SAE/USCAR 28 (Initiator Requirements), June 2005

MIL-STD-810 Base, A, B, C, D, E, F, G, H
(Method 501);
MIL-STD-202 E, F, G (Method 108);
SAE/USCAR 24 (Inflator Requirements), June 2004;
SAE/USCAR 28 (Initiator Requirements), June 2005

MIL-STD-810 Base, A, B, C, D, E, F, G, H (Method 502)

MIL-STD-810 Base, A, B, C, D, E, F, G, H (Method
503);
MIL-STD-202 E, F, G (Method 107);
SAE/USCAR 24 (Inflator Requirements), June 2004;
SAE/USCAR 28 (Initiator Requirements), June 2005

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RTCA/DO-160 B, C, D, E, F, G (Section 6);
MIL-STD-810 Base, A, B, C, D, E, F, G, H
(Method 507);
MIL-STD-202 E, F, G (Method 103);
MIL-STD-1344A (through Notice 6), (Method 1002);
SAE/USCAR 24 (Inflator Requirements), June 2004;
SAE/USCAR 28 (Initiator Requirements), June 2005

MIL-STD-810 Base, A, B, C, D, E, F, G, H
(Method 520);
MIL-STD-1344A (through Notice 6), (Method 1003);
RTCA/DO-160 B, C, D, E, F, G (Section 5)

MIL-STD-810 Base, A, B, C, D, E, F, G, H,
(Method 511);
RTCA/DO-160 B, C, D, E, F, G (Section 9)

Tests:

Test Specifications/Methods:

Rapid Decompression

MIL-STD-810 Base, A, B, C, D, E, F, G, H,
(Method 500);
RTCA/DO-160 B, C, D, E, F, G (Section 4)

Immersion

MIL-STD-810 Base, A, B, C, D, E, F, G (Method 512);
MIL-STD-202 E, F, G (Method 104);
MIL-STD-1344A (through Notice 6), (Method 1016)

Fluid Susceptibility

MIL-STD-810 F, G, H, Method 504);
RTCA/DO-160 B, C, D, E, F, G (Section 11)

Solar Radiation/Sunshine

MIL-STD-810 Base, A, B, C, D, E, F, G, H,
(Method 505);

Salt Fog/Spray

MIL-STD-810 Base, A, B, C, D, E, F, G, H,
(Method 509);
MIL-STD-1344A (through Notice 6), (Method 1001);
RTCA/DO-160 B, C, D, E, F, G (Section 14);
SAE/USCAR 24 (Inflator Requirements), June 2004;
SAE/USCAR 28 (Initiator Requirements), June 2005;
MIL-STD-202 E, F, G (Method 101);
ASTM B117-73, -94, -97, -02, -03, -07, -09, -11, -16,
-18, -19

Rain/Drip/Blowing Rain ¹
(Up to 40mph)

RTCA/DO-160 B, C, D, E, F, G (Section 10);
MIL-STD-810 Base, A, B, C, D, E, F, G, H,
(Method 506)

Freezing Rain

RTCA/DO-160 B, C, D, E, F, G (Section 24);
MIL-STD-810 Base, A, B, C, D, E, F, G, H,
(Method 521)

Combined Environments (Temperature,
Humidity, Altitude)

RTCA/DO-160 B, C, D, E, F, G, (Section 4);
MIL-STD-810 Base, A, B, C, D, E, F, G, H
(Method 520);
SAE/USCAR 24 (Inflator Requirements), June 2004;
SAE/USCAR 28 (Initiator Requirements), June 2005

Sand and Dust

MIL-STD-810 Base, A, B, C, D, E, F, G, H Method 510);
RTCA/DO-160 B, C, D, E, F, G (Section 12);
MIL-STD-202 E, F, G (Method 110);
SAE J1211 (Section 4.5), Nov. 78 (*dust only*);
SAE J1455 (Section 4.7), Aug. 94 (*dust only*)

Dust Ingress

IEC 60529, ISO 20653 IP5X, IP6X

Water Ingress

IEC 60529, ISO 20653 IPX3, IPX4, IPX5, IPX6, IPX7,
IPX8

¹ Also using customer specific test methods utilizing any combination of test equipment parameters listed above.



Accredited Laboratory

A2LA has accredited

ELEMENT MATERIALS TECHNOLOGY TEMPE

Tempe, AZ

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 16th day of May 2024.

A blue ink signature of Mr. Trace McInturff, written over a horizontal line.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 214.10
Valid to March 31, 2026

For the tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.